Evaluating Land Use Simulations: the Application of Policy Related Functional Indicators in Dutch Studies of Future Land Use

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Evaluating land use simulations

the application of policy related functional indicators in Dutch studies of future land use

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Future land use is an important theme in the preparation and evaluation of Dutch spatial planning reports. These studies typically look several decades ahead and describe the outlook of the future by means of a set of scenarios with different socio-economic conditions. Land use models are commonly used to indicate possible future land use patterns according to the scenario conditions. In order to help policy-makers and researchers interpret, compare and evaluate different scenario simulations quantitative measures are needed that objectively describe the resulting maps.

Normally two types of indicators are distinguished that can help summarise land use patterns. General *composition metrics* quantify the variety and abundance of land use types without considering their spatial character, whereas *spatial configuration metrics* do refer to the spatial distribution of the various land use types and focus on their individual patches (areas of a specific land use type). The latter type of indicators can be effectively applied to evaluate simulation results in terms of spatial policy issues. It is especially this dedicated assessment of land use maps that is essential to decision-makers. Functional indicators should: relate to specific (policy) themes, be intuitively understandable for policymakers, capture the essence of simulation results and discriminate between different simulation outcomes.

Several examples will be presented of functional indicators that were specifically drafted for different scenario-studies of future land use. These relate to important themes in Dutch spatial planning and include: concentration of urbanisation, fragmentation of open space and the detoriation of landscape values. Based on these examples the usefulness of the application of indicators will be discussed and suggestions will be made to come to an integrated assessment of land use simulations.